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THE INSTITUTIONAL APPROACH IN THE ECONOMIC
THOUGHT OF CARLO CATTANEO

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ABSTRACT: This paper analyzes the contributions to political economy of Carlo Cattaneo as an *ante litteram* institutionalist scholar. Carlo Cattaneo has been an original thinker with a polyhedricity of cultural interests. From a point of view of political economy, we can say that Cattaneo was influenced by the concept of sociality. He studied the human action framed in his social and relational dimensions. Cattaneo was aware that the development of society needed to be seen as the result of complex interactive and often conflicting forces. Carlo Cattaneo has been interested in forces that generate change in social and economic structures. One of these forces is the human intelligence -to day we say knowledge- which is at basis of his value theory. Another important force is the action of the entrepreneurs, who are the engines of economic progress. Cattaneo devoted a particular attention to links between law and economic activities. In the paper the role of laws on economic trajectories is discussed, with a special attention to the effects of Israeli interdictions.

Keywords: technological change, institutions, knowledge

Jel Classification Codes: D83, K2, 03

Introduction

The purpose of this paper is to re-read, and bring up to date, some of the characteristic elements of the economic thought of Carlo Cattaneo, an eminently cultured Italian figure from the first half of the 19th century. This paper is not intended as an essay of the history of economic thought and, therefore, does not focus on the historic contextualisation of Carlo Cattaneo's work. This paper, instead, aims to show the assonance between the thought of Carlo Cattaneo on economic matters and the neo-institutionalist economic approach. In fact, Cattaneo was somewhat seen as a scholar of many cultural interests, which weakened his scientific influence, whilst territorially the thought of Cattaneo was confined to only Italy. Knowledge of the Cattaneo economic and political thought outside the Italian scope is extremely limited. The only economic work of Carlo Cattaneo, for example, that has been translated into English is *Del pensiero come principio di economia pubblica* (1861/1956), recently published (2007) by Lexington Books and entitled *Intelligence as a Principle of Public Economy*.

I feel, however, that it could be useful to re-propose a reading of Cattaneo's principal works on political economy, in a slightly different light from that which eminent Italian scholars have so far been considered in, and especially to demonstrate how elements can be found in Cattaneo's endeavours that are significantly close to the institutionalist approach to political economy. Certainly, the methods that Cattaneo used, and the issues that he tackled, are rooted in the scientific revolution of the Enlightenment and in the renewal movements of European society that occurred in the period in which Cattaneo wrote, and therefore owe much to that cultural climate.

However, I believe there is an originality in Cattaneo's approach to political economy, therefore making it possible to identify the existence of some assonance in the approach between the Lombard scholar and the neo-institutionalist school. Carlo Cattaneo can thus be defined as an *ante litteram* neo-institutionalist, due to the issues that occupied him, which, many decades later, occupied the neo-institutionalist school, and the approach that he took; Quadrio Curzio (2007: 104), for example, defined him as an institutional economist. The economic issues in which Cattaneo had an interest are numerous, but amongst these the importance of the causes of economic development, the role of knowledge and scientific and technological innovations, the role of entrepreneurship, stand out. Nevertheless, what makes Cattaneo an institutionalist type scholar is the extreme attention that he paid to the role of regulations that superintend economic function. In almost all of his work, attention was paid to the relationship between rules and market operations, so much so as to induce him to sustain the need to jointly study economic organization and law (1836/1956, vol I:180-81).

On the Misfortune of the Thought of Carlo Cattaneo

Carlo Cattaneo is one of those original and deep thinkers who are much praised but in the end, little followed. In this regard, an important essay by Norberto Bobbio (1970) comes to mind, who spoke on the misfortune of the Carlo Cattaneo thought in Italian culture. Bobbio was referring to the limited audience that the Cattaneo thought had in the milieu of Italian political philosophers. In this paper, Bobbio's lament is resumed and extended to Cattaneo's work on the subject of economics where only a few authors have had the opportunity to highlight some important methodological merits of Cattaneo's economic research, corresponding in an almost absolute silence in Italian economic doctrine. In this respect, Becattini (2001:27) is inclined to view the silence on Cattaneo's work by economists who came after him, as a result of the non-homogeneity of his work and the growing hegemony of the mainstream Anglo-Saxon matrix. Certainly, Cattaneo's economic works lack the systematic nature that allows founding a school and seems to be caused (as it often is) by contingent polemics. In this light, Cafagna (1975:207) speaks of Cattaneo as a "militant" economist, id est, a scholar who uses economic analysis on the level of political polemic, an economist "who uses a general preparation borrowed to the schools of his time for the study of concrete problems, in continuous combination with geographical observations, analysis of technologies, examination of institutions and sociological considerations" (Cafagna, cit.). Liberalism emerges amongst the currents of thought that Cattaneo mostly referred to and therefore some scholars of the Cattaneo thought frame him *tout court* among the group of liberal economists. Certainly, Cattaneo's analyses reveal some general convictions resulting from accession to the liberal school. However, things are more complex than that because Cattaneo was not so much interested in individual economic freedom as in the freedom of individual economic actions within human society. Therefore, to speak of methodological weakness appears misleading because Cattaneo considered the economic science of his era as a set of dictates, in part theoretical, in part empirical and in part politically "militant" that still posited the nascent political economy outside of the methodologically consolidated sciences (1836/1956, vol.I:180). In fact, Cattaneo is critical of those attempts of theorizing that in trying to explain everything, end up explaining nothing. In other words, Cattaneo's methodological position is that of a scholar who feared that at the base of certain theoretical constructs of the then nascent political economy there was a lack of consideration of the facts - unlike that which occurred in Physics - and excessive theorizing dominated by ideological type biases. Therefore, the insufficient methodological armour of Cattaneo's analyses may also be seen as a recall to methodological prudence.

However, my aim is not to try to reassign a place of honour to Carlo Cattaneo in the pantheon of (Italian) economists but, as I've said, to show how his thought can persist as a "form of modern thought", in large part forestalling the literary works of that which can be called the economic neo-institutionalist school. In the same way as neo-institutionalism does not reject the analytical tools of neo-classical economics but incorporates them in its conceptual apparatus in order to study the processes of institutions (Furobotn and Richter, 2000:2), Cattaneo does not reject some of the significant logical tools of classical economics, but uses them according to a vision that also incorporates other knowledge. It can then be argued that it is the modernity of the scientific work of Carlo Cattaneo in the economics field that explains the incomprehension that doctrine at that time had in respect of his work. In fact, the economists of the first half of the 1800s (this is the period when essentially Cattaneo's economic work emerged) did not have the conceptual tools to understand Cattaneo's methodological caution, and much less the position of near rupture that his approach to classical economics assumed. They didn't have the tools because the economic science issues that Cattaneo raised were not the same as those raised from the doctrines that were dominant at the time. Later I will demonstrate, at least in my view, that Carlo Cattaneo expounded the fundamental concerns of neo-institutionalist economic science, recognizable in the search of the factors that generate changes that Cattaneo saw in terms of "progress", and in the search of the forces that create social institutions.

The merit of having reposed the scientific work of Cattaneo for the reflection of economists, particularly in Italy, can certainly be bestowed on Alberto Bertolino who edited the volume of Cattaneo's *Economic Writings* which were published, in Italy, by Le Monnier (1956). Bertolino not only extracted from the great quantity of Cattaneo's essays those of a characteristic economic nature, distinct in their approach and depth, but also provided a useful and critical framework thereof. To complement the Bertolino analysis, the contributions of Luciano Cafagna (1975), Giacomo Becattini (2001), Alberto Quadrio-Curzio (2007) should also be read. Macchioro's (1992/2006) position is more eccentric compared to those of Bertolino, Cafagna, Becattini and Quadrio-Curzio.

The Cattaneo Approach

I have just pointed out some criticisms directed at the forced lack of systematicity of the economic thought of Carlo Cattaneo. For scholars who have analyzed Cattaneo's work, this lack appears to reflect the polyhedricity of his cultural interest, as noted by Bertolino, Cafagna, Becattini and Quadrio Curzio. In this respect, Quadrio Curzio speaks of Cattaneo as an *encyclopaedic and analytical economist* (2007:103). Macchioro's position is different; he denies Bobbio's assertion that Cattaneo has been forgotten by Italian culture. Puccio's (1977) position is particular, he fears to the contrary that by updating the thought of Cattaneo, it risks falling into hagiography. However, it should be noted that Cattaneo drew economists to the study of facts and concrete phenomena in the same way that physical sciences proceeded; in order to do so the economist of that historical period could not but perform punctual analyses collecting material that in a following stage could give life, as Cattaneo said, to "those collections that are called treaties" (1836/1956:181) which can ensue when the time is ripe for a satisficing theoretical systematizations.

I mention above that themes can be found in Carlo Cattaneo's work that are dear to the enlightenment tradition, such as the great confidence in the role of science and technology, even if Cattaneo did not totally consider himself as an enlightener. He was aware of the limits of enlightenment which reproached excessive individualism; among other things, Cattaneo did not share the enlightenment idea of the linear progress of humanity towards a society dominated by

the light of reason. In reality, Cattaneo was heavily influenced by the concept of "sociality" formulated by Romagnosi, whereby he intended to study man framed in his social and relational dimensions. According to Cattaneo it is only possible to study humans by framing their actions within their social context, and therefore only "the study of the *individual* within *humanity*" (1972:328) is possible. His research program was that of an empiricist scholar who studies the social phenomena without seeking metaphysical messages, and instead searching for those that exist i.e. events that occur in social systems as a result of a series of interactions, such as those between society and the environment, or those between the individuals that make up a certain society. Cattaneo was aware that the development of society, a phenomenon that he considered extremely interesting, needed to be seen as the result of complex interactive and often conflicting forces. According to Cattaneo it is the forces that generate the change that should be looked at, because "variety is life, impassive unity is death" (1972). In the multiple manifestations of events that constitute history, a dialectic process operates between progress and regression. The progress and freedom of human society (Romano and Vivanti, 1973:345) is based on conflict and variety. In the wake of the thought of Giandomenico Romagnosi, his teacher at the University of Pavia, and partially by economists of the classic English school, Cattaneo saw civil progress as accompanied and marked by economic progress, which in turn depended on the free competition between persons, societies and nations.

It is immediately clear from what has been said above, that Cattaneo was not as interested in the forces that lead economic systems to a stationary equilibrium, as much as the forces that breakup a possible stationary state imprinting movements of change or, at least evolutionary change, on economic systems. Cattaneo was interested in analyzing the fundamental forces that determine the economic and civil progress of a community whether they be large or small, national, regional or local. From this point of view, it is interesting to note the importance that he assigned to the study of the "city" (1858/1957) as a defined geographical reality in which specific economic institutions develop. This is about forces that are the result of the application of human intelligence to the "social artefacts" that are science and technology. In this framework, the freedom of man is essential to free the intellectual and material energies which, in turn, through the mediation of social relations, transform human capital into social capital. In this context, the attention that Cattaneo paid to psychology in his work dedicated to *associated minds* (1860/1960) must be highlighted. In truth, Cattaneo was mainly interested in understanding the ways in which man arrives at scientific discoveries to then translate them into innovative applications. These methods owe much to the cooperation between human beings, to the exchange and the conflict of ideas.

As far as Cattaneo was concerned, the development of science and technology should not be considered as an end in itself, but as a means of extending the area of freedom and strengthening the ties that are formed between economic development, a result of the growth of human capital, and the practice of freedom. If the task of politics is to increase prosperity, it therefore followed for Cattaneo, that the task of politics must be to liberate the materials and institutional forces that act on such a collective welfare. This can only happen if wise rules are adopted that are consistent with the desire of freedom of individuals and that take into account the power of social bonds. Many times in the course of his writings, Cattaneo refers to the teachings of Romagnosi and the attention that he paid to the relationship between law and human institutions, including economic institutions. Cattaneo was aware that, in the period in which he wrote, political economy was a discipline in its construction phase (1846/1956, vol. III:180) and because of this, as I have already said, it was also alien to retain that the time to propose organic economic theories had arrived. If anything, Cattaneo considered that political economy contributed to the understanding of the functioning of society only if was analyzed together with other social disciplines, amongst which law was prominently positioned. Law and political economy considered together could give an account of the formation processes of social institutions and their functioning. Most of Cattaneo's work is devoted to the analysis of the operation of specific economic institutions and I will reflect

on one of these works later because it is indicative of the method used by Cattaneo to explain how a formal institution generates precise effects on economic organizational forms. I am referring to a study on “Interdizioni Israelitiche” (*Israeli Interdictions*) (1836), which is a case of classic analysis of a real institution, as we shall see. The analysis of concrete cases, reduced however to the basic general principles, is Cattaneo’s fundamental method, which in this context, draws from the method used by physicists who begin with the analysis of a specific problem to then determine the broader theoretical principles. The physical sciences are a field of inspiration for Cattaneo, but only as regards the method, and certainly not for the adoption of a kind of mechanicism that would eventually lead to dogmatism preventing a positive analysis of the social and economic reality. The criticism is especially directed at the socialists and Saint-Simonians who, starting out from ideological presuppositions, end up inhibiting the real understanding of economic and social dynamics.

From here attention is turned towards science and technology, promoting useful knowledge to those engaged in fieldwork and in workshops. His concept of economic development, therefore, is far from that of classic economists, oriented towards a kind of teleological mechanicism that led to an obsession of the idea of the stationary-state. At the same time, his interest was not towards abstract formulations such as those that led, half a century later, to the concept of economic equilibrium. Squeezed between the thought of classics and ignored by the subsequent neo-classics, Carlo Cattaneo’s economic thought seemed unable to find enough doctrinaire space.

Towards a Modern Theory of Value and Development

Cattaneo posed, and was certainly one of the first to do so, the question of the role of knowledge in economic development, also because “the issue of development is, however, his real and fundamental general theoretical issue” (Cafagna, 1975:209). The importance of the role of knowledge within the economic development finds testimony in his work *Del pensiero come principio di economia pubblica (Intelligence as a Principle of Public Economy)* (1861/1965). His analysis begins with the critical evaluation of the contribution of economists of physiocratic doctrine and those of classic doctrine. The first considered wealth as a gift of nature, as a fund of resources that is not modifiable even by work whose contribution was considered usable only for the physical survival of the labour force.

The subsequent contributions of economic science, those of the classics, according to Cattaneo were designed to insert the work role into the formation of the wealth process, ending up with turning work into the first engine of the formation of wealth. Cattaneo highlights how the classics consider amongst the resources attributable to work also those oriented to organizing work, to transporting the goods from one market to another, to generating the division of labour that is important to the increase of wealth that, in part, is transformed into capital. Those economists - following Cattaneo- ended up identifying the brute force of work in the causes of wealth rather than the application of human intelligence in work (1861/1956, vol.III:340). His criticism of Adam Smith is severe in this regard, who is blamed for having argued that the intellectual classes do not produce any value and that their work vanishes as soon as it appears. Cattaneo notes that Smith ends up considering the cost of education as an expense and not as an investment. If Cattaneo is critical of the position of Adam Smith in terms of knowledge, he is equally critical of the position of those economists, followers of the value-work theory, who considered capital as the result of a social confiscation to the detriment of the only social group which, in their view, contribute to producing goods, that is, the manual workers; Cattaneo instead considered capital as a form of saving, as “a mass of useful things that the owner does not consume, but keeps in stock” (1839/1956, vol.II:259)

For Cattaneo, intelligence, namely that which we now call knowledge, precedes work and capital which do not exist as such until there are intellects who think of new uses and organize the necessary factors to achieve a specific purpose. As an example of this, Cattaneo (1861/1956, vol.III:345) recalls that while Europeans were unaware of the possible uses of coal deposits, the Chinese extracted such minerals to use for domestic and productive purposes. Therefore, poverty is first of all the result of the inability of knowing how to exploit natural resources and the wealth resting on that capacity, and not so much natural resources in themselves. Nor does Cattaneo consider wealth as a direct function of the sum of hard work carried out to produce it. There are intellectual forces that make work lighter or, if you like, more productive, and these are directed to satisfying the needs of people. On this aspect, rejecting every hypothesis of the value-work theory, Cattaneo highlights the role in determining the value of goods that is exercised by the relative demand of them, that is to say, that which today would be called utility (1861/1956, vol.III: 347). Nevertheless, utility is by its very nature subjective, so that the value of goods resides in the thought directed at them, stimulating them in different ways according to the times and situations. Cattaneo's reflection on the connection between the growth of wealth and innovation, between growth of innovation and amount of work required to obtain the goods that are useful to life, deserve attention. On the tradeoffs between innovation and work used for obtaining various goods, Cattaneo highlights how innovation produces a lowering of the cost of goods and is the basis of the growth of income. Not only, the creation of new products, if using new materials, feeds commerce and pushes for new, more complex divisions of labour (cit, p.352). Cattaneo sees the growth of knowledge as a force capable of changing mystical-religious thought to scientific thought, based on the analysis of the facts and situations. He even states, "Analysis is to the kingdom of intelligence what the division of labour is to the kingdom of industry" (cit: 353). He therefore maintains that if a society ceases to modify technical processes and social institutions then it ends up fossilized and consequently wealth ceases to grow or, certainly, there is no increase in the growth rate. The growth rate of wealth, therefore, can increase when production techniques improve and when the organization of the society is upgraded. Thus, Cattaneo affirms that "the public economy of a nation cannot be explained through either Montesquieu or Adam Smith; nor can it be explained with *nature*, or with work; but with *intelligence* that seizes the facts of nature; presiding over work, consumption, and accumulation" (cit: 355).

For Cattaneo knowledge is not reduced to scientific thought. It is also, especially in the early stages of certain production processes, the result of practical knowledge, as highlighted by Becattini (2001: 43). According to Cattaneo, the most significant changes do not necessarily result from scientific procedures, but are the result of practical knowledge that has been accumulating over time. Many inventions were acts of intelligence, the result of observation of individual facts by astute minds and not from scientific deductions.

Knowledge, Innovation and Entrepreneurship

In the preceding paragraph it was shown that for Cattaneo the value of goods depended on the new knowledge that is incorporated there, and how such knowledge is the result of cooperative processes within more or less extensive social groups. Cattaneo identifies, as we have already seen, the specialization of intelligence as something akin to the division of labour as theorized by Adam Smith (1861/1956: 353). Scientific work is made possible by the growth of income, a part of which may be intended to make the intellectual work grow. In turn, the intellectual work, in particular scientific work, has an impact on the production of goods because it encourages the growth of what today would be called productivity. Well, it may be noted then, that the

specialization of minds is in itself a socializing fact, as it binds human beings into close cultural relations which then become technical and commercial. The position of privilege that Cattaneo assigns to innovation processes resulting from increased knowledge entails the need to redesign the hierarchy of the production factors. Furthermore, an issue that Cattaneo confronts is the existence of some degree of compatibility between the parameter constituted from knowledge and those constituted respectively from capital and from work. From the verification of the degree of compatibility of these parameters, the specific income distribution policies that are the result of certain institutional arrangements, should then derive.

Identification of a third parameter, as represented by knowledge, and the ways in which this parameter hierarchizes its position in relation to others, allows Cattaneo to emphasize the role of innovators, both technological and economic, *id est*, the entrepreneurs, but also craftsmen and workers. There are political issues of great scope behind Cattaneo's considerations that are made evident by the force with which the debate between free traders and socialists throughout Europe is conducted. Cattaneo considered that this debate should be taken back to the level of empirical rationality. He accused the Socialist school of not being aware of the contradictions into which this school logically falls when calling for income to be shared according to the contributions of each class. In fact Cattaneo says: let us assume that gross product should be allocated in accordance with actual individual contribution, as Socialists pretend; it would then be easy to notice that, on the basis of such a principle, knowledge would be rewarded to the detriment of material work, and as regards productivity gains, which alone justify the accumulation of capital, they would all have to be accredited to human intelligence, both to the inventor's and to the organizers of the productive factors (1861/1956, vol.III: 344). In fact, wealth in itself does not exist, but is the result of the application of human intelligence beyond natural resources, and its effects in productivity terms always remain present in the economic process, even when the initial effort ceases, because they enter definitively as part of a collective patrimony, an asset, according to Cattaneo, which, without much merit, manual work claims total possession of. Such a claim arises from a sort of cognitive illusion arising from the fact that, whilst the original intellectual act enters into the cycle only the first time and is then incorporated forever, manual labour must enter into it continuously, and it is for this reason that we have the impression that this is the cause of wealth. Therefore, the parameter on which to measure the value of goods is creative thought, to which Cattaneo asserts the primary role in economics; it is a primacy that is explicated both in real inventive activity, that is, in search of technical innovations that are constantly more suitable to improving production efficiency, as in organizational type entrepreneurial activity which is equivalent to the inventive activity in so much as the organization of productive factors has the possibility of improving the efficiency of processes.

There is, therefore, a kind of equivalence or, if you prefer technical-scientific complementarity between inventiveness and entrepreneurial organizational capacity because, as stated, both must have the common objective of increasing collective wealth and because there is a sort of interrelation between them expressed by their ability to influence each other. Driven by own interests, the entrepreneur will seek to exploit the natural resources and the productive factors in such a way as to enable these resources and factors to repay him the effort made and the costs incurred (Mistri, 1973). To achieve this objective the entrepreneur must create what today would be called a "competitive advantage", through the use of innovative processes, through the introduction of new products, through better organization of the productive factors. It is a process that, in Cattaneo's vision, occurs in waves, which spread from the centre of the economic system out to the most external zones, zones that become involved and then transformed. In this way, each new idea of the manufacturer gives a new idea to the marketeer; generating a new branch of trade. And "the benefit of this new idea also enriches the barbarian tribe that unconsciously slept on the buried treasure" (1861/1956, vol.III: 352).

An Institutionalist Concept of Political Economy

As already mentioned, Cattaneo paid a great deal of attention to the issue of the relationship between economic development and social institutions, believing that a kind of interdependence could be identified between them. That is to say, that the economic development influences the formation of institutions and, in turn, the institutions affect the possible paths that economic development may take. Cattaneo develops the larger considerations within these issues in his essay dedicated to the effects produced by the *Interdizioni Israelitiche (Israeli Interdictions)* (1936/1956). This essay is dedicated to the analysis of processes, which, in Europe, came to prohibit the ownership of land to Jews. Of course, Jews were not only prohibited the possibility of land ownership, but many other forms of discrimination were also imposed in respect of access to professions. Cattaneo tries to demonstrate that the prohibitions to Jews, far from favouring Christians, ended up creating distortions that proved disadvantageous to those very same Christians. Cattaneo states that preventing Jews from access to land was an improvident matter in whichever country put it into act (1836/1956, vol.I:202). Improvident because, as mentioned above, instead of promoting the interests of "Christians" they ended up damaging them further. Cattaneo's demonstration of this argument is compelling and is based on the analysis of the dynamics that led Jews to become, in a certain stage of European history, the only ones to whom the pursuit of banking activity was granted. This activity had become dominated by Jews because of the prevailing ideology against interest bearing loans. According to Cattaneo, Jews were not of a particular predisposition for financial activity; in fact, they were originally mostly farmers and shepherds. However, ideology prevailing in Europe in financial matters had pushed Jews into money lending, this being one of the few activities that was permitted, although amid a thousand difficulties and persecutions. The persecutions against Jews in Europe were manifold; Cattaneo cited those that occurred shortly after the year one thousand, which led to the virtual elimination of Jews from Europe. In this way, many European countries came to lose the main sources of funding from agricultural activities, so much so that the economic conditions of Europeans worsened further. Cattaneo demonstrates, therefore, that the prohibition of land ownership imposed on Jews caused great damage to the European economy and contributed to impoverishing the already dramatic conditions of the population, given that most of them lived off agriculture. There was certainly a political reason that justified such prohibitions, namely, that the possession of land was based on the feudal regulations existent in Europe. It is clear that if Jews had become significant landowners the feudal system would have faced a political problem that would have been difficult to solve. From this, the interdictions, but also further weakening of the economic bases on which the same feudal system was wielded. In fact, the European agricultural system suffered from a chronic shortage of financial resources that it instead needed. Jews could have contributed to raising the level of investment in agriculture and thus to raise the value of the capital invested in agriculture, including that of non-Jews. Cattaneo recalls how the Swiss region of Basel banned the purchase of land to Jews and how, in this way, the value of land in the region remained low and was not able to justify significant investments in agricultural activities. The result was persistent stagnation of the economic life and poverty in Basel (1836/1956, vol.I: 202). In this regard Cattaneo highlights the regressive mechanism that behaviour such as that adopted by almost all European countries in the Middle Ages and beyond produced on the European economic system in that long period. Therefore, the lack of financial resources in general led to their increase in value (money, gold and silver) in respect to the value of land. This led to the introduction of measures which today would be called "state-controlled", that is, prohibiting interest bearing loans and at the same time prohibiting Jews (the only ones practicing financial activities) from buying land. Lacking the influx of financial resources from agricultural activities provoked the lack of financial economic development of European countries.

This analysis led Cattaneo to highlight how beliefs ruling in certain historical periods, and a distorted knowledge of their interests, which today we would call long-term, led Europeans to implement laws that were contrary to their objective interests. In the *Israeli Interdictions*, Cattaneo shows how, albeit unconsciously, the governments of many European countries ended up orientating Jews towards performing financial activities that proved capable of creating greater wealth than land ownership would have. Moreover, here Cattaneo develops an analysis that brings him to identify two concepts that only in modern times acquired full citizenship in economic science. One of these brings him quite close to the concept which today we call *liquidity preference*, and the other, which we now call *transaction costs*. On liquidity preference, Cattaneo demonstrated in the *Israeli Interdictions* (1836/1956, vol.I: 253) that financial activities, by the form that they take, are able, more than others, to seize the best opportunities for investment, even moving from one country to another, whilst land activities are linked to the general conditions of the location and cannot easily be disinvested, if not at a loss of the original values. In Cattaneo's vision, an entrepreneur is someone who searches out the best opportunities for investment and makes profit in changing environmental conditions, and therefore, albeit unwittingly, the discriminated Jews took on the activities that allowed maximum freedom of manoeuvre of capital in liquid form.

The other concept, as stated, is that of transaction costs. In this case also, Cattaneo (1836/1956, vol.I: 243) shows how land is subject to many constraints designed to regulate transfer and is subject to judicial conflicts between the different parties. Cattaneo states that, because of the risks of conflict between the parties, the capital invested in land is not as easily divested as in other types of investment. We can see from Cattaneo's analyses that he had a clear idea of the negative role exercised by transaction costs which are higher in land management and how the search for lower transaction costs should encourage trying to make personal capital more liquid. Analysis of the role that European laws had in respect of Jews in determining negative development paths on European economies propels Cattaneo to posit more general questions, interrogating the relationship between institutional structures and economic structures. In this regard he asks how it is possible that the same economic phenomenon can be regulated by different institutions (1836/1956, vol.I: 178). At the centre of the problem is the way in which economic institutions form, which cannot respond to the abstract rules of natural law which, by definition, is unique and universal, but to the processes of adjustment of laws to concrete situations, specific to each country. With regard to this, he maintains that the specific way of regulating economic issues in the Italian peninsula is also the result of what could be called the "principle of tolerance". However, the way in which Cattaneo treats this principle of tolerance highlights the methodological concerns that have today only become clearer through the understanding of the modern cooperative game theory. In fact, he considers that, given the uncertainty of the ruling principles that can be derived from natural law, the criterion of favouring the emergence of laws that are consistent with specific interests is affirmed. Cattaneo does not deny that ethical values can have a role in the formation of institutions. However, he notes that these institutions are in the interests of the family and of society (1836/1956, vol.I: 179), so that their formation responds to a principle of rationality (cit: 180). There is a certain assonance with Adam Smith's idea, according to which the activity of the producer is not determined by particular kind-heartedness but rather by his own actual interests. Cattaneo complains that economists of his time were not wise to the link identifiable between the formation of institutions - which today we would call cooperatives - and the interests of individuals and groups, resulting in the absence of a serious study of this phenomenon.

The considerations that he develops on the economic inefficiency of slavery are testimony of this. The abolition of slavery, as far as Cattaneo is concerned, responded not only to the rules of the principle of tolerance, but also to the principle of rationality (1833). Responding to the principle of rationality in the same way are those contracts in the agricultural sector which, seemingly

favourable to the renter, incentivize him to invest in land and to improve efficiency, avoiding what today would be called opportunistic behaviour (1857/1956, vol. III: 279).

Conclusions

It seems clear from what has been said, that in the strictest economic works of Carlo Cattaneo there is, in a nutshell, a methodological design based on the call to study economic phenomena within their entirety of social phenomena. Cattaneo paid enormous attention to the possibility of investigating economic phenomena using fundamental economic concepts together with those of law, to show how the economic processes and those relating to institutions evolve over time. He therefore reproached the economists of the time for the little attention they paid to this intertwinement, considering that it was wrong to ignore the relationship between institutions and economic facts; conversely, it is precisely this concern that became the forerunner of the institutionalist approach.

Whilst he appealed to the nascent political economy to look carefully at physical sciences, Carlo Cattaneo did not, however, perceive the strength of appeal that the mechanistic paradigm, typical of physics of his time, had on political economy. Thus, Carlo Cattaneo, as an economist, appears defeated on the grounds of methodological comparison with the schools that became dominant. I believe that today we can see in Cattaneo's "defeat" the seeds for a reassessment of his thought, also on the part of economists.

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* In the many works of Carlo Cattaneo cited, the date of the first publication is indicated, whilst when following a dash the date of publication in the volume of his complete works is indicated.

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